

Effect of modification on the V_2O_5 cathode materials prepared by spray pyrolysis

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Much attentions has been focused on vanadium pentoxide (V_2O_5) as cathode materials due to its high theoretical capacity of which reaches 440 mAhg^{-1} when three lithium ions are intercalated per mole of V_2O_5 . For the practical application of V_2O_5 as cathode, electrochemical properties should be improved. To improve the electrochemical performances of the cathode, Zr has been widely applied to be modified various cathode materials. In this study, the effect of Zr modification on the characteristics of the V_2O_5 powders was investigated. To prepare the modified V_2O_5 cathode powders by Zr, spray pyrolysis was applied, which is proper to the preparation of cathode powders with a fine size, non-aggregated spherical and dense morphology.